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10/028,629	12/20/2001	Clinton D. Chapman	19.0303	6725

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EXAMINER

LE, TOAN M

ART UNIT

PAPER NUMBER

2862

DATE MAILED: 03/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/028,629

Applicant(s)

CHAPMAN ET AL.

Examiner

Toan M Le

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Referring to claims 6 and 13, " $C = v \xi + S$ ",  $v$  and  $S$  are not specified.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-25 are rejected under 35 U.S.C. 102(a) as being anticipated by Alft et al..

Referring to claims 1-4 and 12, Alft et al. disclose a method and a computer program product in a computer readable medium for graphically planning the direction and inclination of a well bore trajectory using graphical techniques comprising the steps of: generating an initial starting point and ending point for a well bore trajectory, the well trajectory having hold and curve sections; creating a control point for each desired curve section between the starting point and ending point, the control points being at locations off the curve section; identifying tangent

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point along the well bore trajectory where the hold sections contact a curve section of the trajectory; determining any directional constraint on the ability to manipulate the control point; and graphically manipulating multiple sections of the well bore trajectory simultaneously by directional movement of points related to the well bore trajectory within the determined directional constraints, wherein the graphical manipulation comprises directional movement of control points and identified tangent points (col. 15, lines 17-54; figure 29).

As to claims 5 and 14, Alft et al. disclose a method and a computer program product in a computer readable medium for graphically planning the direction and inclination of a well bore trajectory using graphical techniques wherein the control point creating step comprises projecting each hold section contacting a curve section beyond the tangent points in the direction of hold section such that the projections of the hold sections intersect and form a control point for that contacted curve section at the intersection point of the hold section projections (figure 29).

Referring to claims 6 and 13, Alft et al. disclose a method and a computer program product in a computer readable medium for graphically planning the direction and inclination of a well bore trajectory using graphical techniques wherein the directional movement constraint determination step is determined by equation of constraint for one degree of freedom (figure 29).

As to claim 7, Alft et al. disclose a method graphically planning the direction and inclination of a well bore trajectory using graphical techniques wherein the direction constraint determination step determines that there are no directional movement constraints on the control point, thereby enabling movement of the control point in any direction (col. 5, lines 24-30).

Referring to claims 8 and 15, Alft et al. disclose a method and a computer program product in a computer readable medium for graphically planning the direction and inclination of a well bore trajectory using graphical techniques wherein the graphical manipulation of the well bore trajectory further comprises manipulating multiple sections of the trajectory by moving a control point while maintaining a constant radius of the curve section corresponding to that control point (figure 29).

As to claims 9 and 17, Alft et al. disclose a method and a computer program product in a computer readable medium for graphically planning the direction and inclination of a well bore trajectory using graphical techniques wherein the manipulation of the curve section comprises moving the points and tangent points along the projected hold section lines (figure 29).

Referring to claims 10-11, Alft et al. disclose a method for graphically planning the direction and inclination of a well bore trajectory using graphical techniques wherein the well plan further comprises multiple curve sections, connected by hold sections, the well plan also having a control point at each curve section, and wherein tangent point manipulation is constrained to movement of the tangent points, which cannot extend passed an adjacent control point or tangent point, along directional lines that connect adjacent control points (col. 5, lines 31-39).

As to claims 18-22, Alft et al. disclose a graphical well bore trajectory display capable of real-time graphical manipulation comprising: an initial hold section at the starting point of the well bore trajectory; a curve section connected to the initial hold section; a second hold section connected to the curve section; and a control point positioned at a location of the well bore trajectory, to enable simultaneous manipulation of the hold and curve sections of the well bore

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further comprising a starting point at the initial hold section with an end point at the end of the second hold section and tangent points at points where the hold sections intersect the curve sections whose radius remains constant during graphical manipulation of the well bore trajectory and whose distance from each tangent point to the control point is equal and whose control point is formed at the intersection of projections of the hold sections that connect to the curve section (figure 29).

Referring to claims 23-25, Alft et al. disclose a graphical well bore trajectory display capable of real-time graphical manipulation further comprising multiple curve sections in the trajectory, each curve section having corresponding tangent points and a corresponding control point wherein a pair of the curve section is directly connected at a tangent point common to both curve sections and further comprising hold sections between the multiple curve sections, a hold section connecting two curve sections (col. 5, lines 31-39).

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,025,851 to Valdes et al.      U.S. Patent No. 6,441,823 to Ananya

U.S. Patent No. 6,111,588 to Newell      U.S. Patent No. 5,821,414 to Noy et al.

“Derivation of a standard set of geometric constraints for parametric modeling and data exchange”, Bettig et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan M Le whose telephone number is (703)305-4016. The examiner can normally be reached on Monday through Friday from 9:00 A.M. to 5:30 P.M..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (703)305-4816. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9318 for regular communications and (703)872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-0956.

Toan Le

March 7, 2003

  
EDWARD LEFKOWITZ  
SUPERVISORY PATENT EXAMINER  
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